



Topic: Infant and Child Health

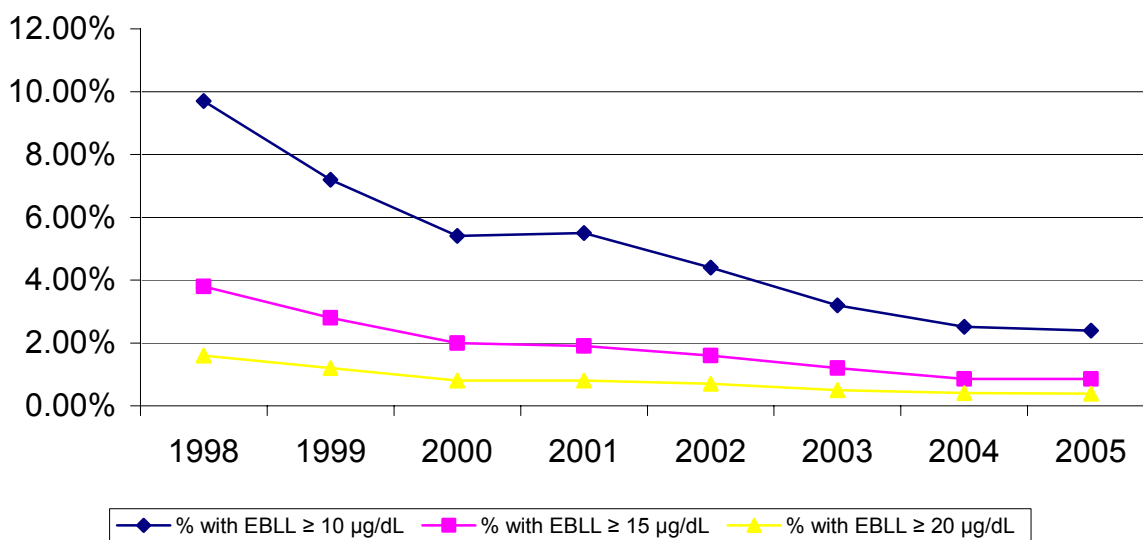
27. Children's Blood Lead Levels

Lead exposure adversely affects the cognitive development and behavior of young children. For children under six years of age, CDC has defined an elevated blood lead level (BLL) as $>10 \mu\text{g/dL}$, but serious health effects have been seen at even lower levels. Data show that average BLLs in children decreased since the late 1970s but that elevated BLLs remain more common among low-income children, urban children, and those living in older housing.

The dramatic decline in BLLs from the late 1970s through the early 1990s resulted primarily from the phase-out of leaded gasoline and the resulting decrease in lead emissions, although other exposures also decreased. While air lead levels and lead emissions continued to decrease during the 1990s, most of this decline occurred before 1995. The primary remaining sources of childhood lead exposure are deteriorated lead paint and soil and dust in and around old housing. New housing construction and the demolition and rehabilitation of older housing may be contributing to a continued decline in BLLs. Data from a 1988-1994 National Health and Nutrition Examination Survey showed that low-income children living in older housing had more than a 30-fold greater prevalence of BLLs $>10 \mu\text{g/dL}$ than do middle-income children in newer housing. From 1993 to 1997, the number of low-income children living in pre-1940s and 1940-1974 housing declined by 31% and 14%, respectively, while the number of low-income children living in post-1974 housing increased by five percent in that period.

How are we doing?

**Percentage of Children in Michigan
With Elevated Blood Lead Levels, 1998-2005**



An estimated 2.4% of the population of children in Michigan from birth to six years is lead-poisoned, with the majority of these children eligible for publicly-funded services such as Medicaid, MI Child, WIC, Head Start and Early Head Start. In fact, children in the WIC program in Michigan have been found to be lead poisoned at a rate nearly double that of the rest of the state (5%).



Ten year trend data show an expected continuing decline in the number of children poisoned, but something less than one percent of children will still be identified as lead poisoned after 2010, when CDC indicates that lead poisoning in children should be eliminated.

How does Michigan compare with the U.S.?

Michigan ranks sixth in the nation in the number of children potentially lead poisoned, primarily due to deteriorating housing and the resulting paint dust. While significant strides have been made during the last ten years, children in Michigan are still nearly twice as likely to become lead poisoned as children nationwide.

How are different populations affected?

Lead poisoning is more likely to be seen in low-income populations living in sub-standard or deteriorating housing, so while it is found in children statewide; it tends to be concentrated in older urban areas. All children living in the City of Detroit are considered to be at risk, but risk is found statewide, with about half the Zip codes in Michigan identified as high-risk due to the high percentage of pre-1950 housing. Children can be poisoned if lead hazards are exposed during renovation or remodeling of houses built before 1950.

What is the Department of Community Health doing to improve this indicator?

The Department has identified 13 communities that represent the areas of greatest risk. Several activities occurring in these target communities include: Coalition-building that identifies and engages stakeholders in strategic planning to address lead poisoning and lead hazard issues in specific communities; case management of children with blood lead levels of ≥ 20 $\mu\text{g/dL}$; ombudsman activities that assist families in securing low-interest loans and other funding for removal of lead hazards in homes; public awareness for parents on the importance of testing for their children and for individuals involved in remodeling or renovation activities; abatement activities; and support for the Lead Poisoning Prevention and Control Commission named by the Governor in 2005 (required by PA 400 and 431 of 2004).

Over 1,000 children have received case management services during the last three years. The intent of case management is to ensure that children who are poisoned at significant levels receive appropriate follow-up and treatment in order to decrease their blood lead levels.